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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,936	02/21/2002	Markus Lindemann	(MM) 54 199	6569

7590 08/11/2005

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11011 Bermuda Dunes NE
Albuquerque, NM 87111

EXAMINER

KOSOWSKI, ALEXANDER J

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/080,936

Applicant(s)

LINDEMANN ET AL.

Examiner

Alexander J. Kosowski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,9,22 and 23 is/are rejected.
- 7) ☒ Claim(s) 4-8 and 10-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

RD

DETAILED ACTION

1) Claims 1-23 are presented for examination in light of the amendment filed 6/7/05. This application is now an RCE. This is a non-final rejection.

Allowable Subject Matter

2) Claims 4-8 and 10-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Referring to claims 4 and 10, Langer (U.S. Pat 5,582,876), alone or in combination with the prior art of record, does not explicitly teach a process or device for producing a shaped body by selective laser melting comprising a leveling device which uncovers projecting sections of the last layer which was melted and which project above the desired layer thickness, in combination with the remaining elements or features of the claimed invention.

Referring to claims 5-8 and 11-21, the claims are dependent on claims 4 and 10, respectively, and would therefore also be allowable.

Claim Objections

3) Claim 1 is objected to because of the following informalities:

Referring to claim 1, line 6, Examiner suggests that the phrase “applying the powder layer selectively” should read –and applying another powder layer selectively--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

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- 4) The 35 U.S.C. 112 rejection from the previous office action is withdrawn in light of the amendment filed 6/7/05.

Claim Rejections - 35 USC § 102

- 5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 6) Claims 1, 3 and 9 are rejected under 35 U.S.C. 102(b) as being unpatentable by Langer et al (U.S. Pat 5,582,876).

Referring to claim 1, Langer teaches a process comprising applying a powder layer using an applicator unit (col. 3 lines 32 through col. 4 line 20 and col. 1 lines 65-67), fixing the applied powder layer to a layer below it using a focused laser beam (col. 4 lines 25-39), applying the powder layer selectively by the applicator unit to regions of a surface of the shaped body laying uneven or projecting sections which are larger than a predetermined layer thickness for a next powder layer that is to be processed (col. 5 lines 1-32).

Referring to claim 3, Langer teaches the process according to claim 1, wherein the applicator unit is positioned above the surface of or passes over the shaped body one or more times (col. 4 lines 59-67).

Referring to claim 9, Langer teaches a device for producing a shaped body by selective laser melting for carrying out the process according to claim 1, comprising a process chamber comprising a build-up chamber for the shaped body (Figure 1), an applicator unit that, after the shaped body has been positioned, applies a layer of powder a next desired layer thickness, when

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positioned above the shaped body or passed over the shaped body at least once, wherein the applicator unit has selecting means for the selective application of the powder layer (col. 3 lines 32 through col. 4 line 20 and col. 4 lines 59-67).

Claim Rejections - 35 USC § 103

7) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8) Claims 2 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langer, further in view of Mazumder (U.S. PGPUB 2002/0065573).

Referring to claim 2, Langer teaches the invention above. However, Langer does not explicitly teach the process according to claim 1, further comprising the steps of: recording areas that lie below or adjacent to a plane of the predetermined layer thickness for the next powder layer to be processed by means of a device, and applying the material powder in finely defined form in those areas.

Mazumder teaches a powder applicator unit for a laser sintering device whereby the size and the quantity of powder which can be discharged is limited and controllable to specific defined areas (Paragraphs 0023 and 0030).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize determine areas of differing thickness and apply material in those areas specifically in the invention taught by Langer since this would allow for increased powder

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utilization and better thermal management (Mazumder, Paragraph 0030), and since this would increase the smoothness of the resulting object.

Referring to claims 22-23, Langer teaches the invention above. However, Langer does not explicitly teach that the applicator unit comprises at least one scanning element with a closure section that interacts with an opening in the applicator unit and opens or closes the opening in the applicator unit as a function of a size of a projecting section, nor that the scanning element comprises a middle area which, irrespective of a position of the closure section in the opening, interacts with a further section of the opening and limits the maximum quantity of powder which can be discharged.

Mazumder teaches a powder applicator unit for a laser sintering device whereby the size of a projecting section of powder and the quantity of powder which can be discharged is limited and controllable (Paragraphs 0023 and 0030).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize the limitations of claims 22-23 in the invention taught by Langer since this would allow for increased powder utilization and better thermal management (Mazumder, Paragraph 0030).

Response to Arguments

9) Applicant's arguments are rendered moot in view of the new rejection above.

Conclusion

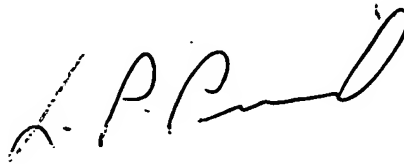
10) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander J Kosowski whose telephone number is 571-272-3744. The examiner can normally be reached on Monday through Friday, alternating Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. In addition, the examiner's RightFAX number is 571-273-3744.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Alexander J. Kosowski
Patent Examiner
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A handwritten signature in black ink, appearing to read 'L. Picard', with a stylized flourish at the end.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100